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The
Code
for
Meteorological Wireless Messages.
issued by
the Imperial Marine Observatory,
Kobe, Japan



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The Code for Meteorological Wireless Messages.

The Imperial Marine Observatory, Kobe, Japan

I. General Remarks.

1 The following two kinds of messages are broadcasted from the Radiotelegraph Station belonging to the Imperial Marine Observatory, Kobe —

- (1) Synoptic data messages giving a synopsis of the meteorological situation over Japan and her neighbouring seas by means of data for twenty selected stations home and abroad
- (2) Storm warning messages

2. **Synoptic data messages** are broadcasted thrice a day, that is,
at 9 h 30 m. am, giving the situation at 6 am,
at 2 h 30 m pm, giving the situation at noon and
at 9 h 30 m pm, giving the situation at 6 pm

Storm warning messages are broadcasted whenever a cyclone or typhoon which is likely to be a manace to navigators appears in our arca

3. Call signal J T J

4. **Wave-length** used in our quenched spark system (*damped*) —
600 metres for storm warning messages
600 metres for Synoptic data messages in day-time, and
750 metres for the same in night

Wave-length used in our Poulsen's electric arc system (*undamped*) —

2650 metres for all messages

5. **The Procedure of transmitting the messages** is as follows --
In broadcasting the above meteorological messages first we transmit

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them on the damped wave in the following order and after five minutes we again transmit them on the undamped waves in the same order —

| | | |
|---------------------------|-------|----------------------|
| 1) Commencing signal | — — — | once transmitted, |
| 2) Q S T | | thrice ", ", |
| 3) "de" | — | once ", ", |
| 4) Call signal, J T J | | once ", ", |
| 5) Meteorological message | | twice ", ", |
| 6) End signal | — — | once ", ", |

II. Synoptic data messages.

6. Synoptic data message gives the readings of the barometer, the direction and force of the wind and the state of weather at the following twenty meteorological stations together with the positions of Highs and Lows —

| Stations | Province | Latitude | Longitude |
|------------------------|-----------------|-----------|------------|
| Ishigakijima | Loochoo Islands | 24° 20' N | 124° 10' E |
| Naha | " | 26 13 | 127 11 |
| Nase | " | 28 23 | 129 31 |
| Miyazaki | Japan Proper | 31 55 | 131 26 |
| Shiweiensisaki | " | 33 57 | 130 56 |
| Nagasaki | " | 24 23 | 132 27 |
| Shimonoseki | " | 33 57 | 130 56 |
| Choshi | " | 35 44 | 140 51 |
| Hachijo Ids | | 33 6 | 139 50 |
| Chichijima (Bonin Ids) | | 27 5 | 142 11 |
| Fukui | Japan Proper | 36 3 | 136 16 |
| Akita | " | 39 41 | 140 6 |
| Sapporo | Hokkaido | 43 4 | 141 21 |
| Nemuro | " | 43 20 | 145 35 |

| Stations | Province | Latitude | Longitude. |
|----------------------|-------------|----------|------------|
| Moppo | Korea | 34 47 | 126 20 |
| Joshin | " | 40 40 | 129 11 |
| Ryojun (Port Arthur) | S Manchuria | 38 47 | 121 16 |
| Changchun | " | 43 55 | 125 18 |
| Tsingtau | Shantung | 36 4 | 120 19 |
| Shanghai | China | 31 15 | 121 30 |

7. Synoptic data is transmitted in a collection of symbols and figures 100 in all

(A) The first 20 groups, each consisting of four symbols and one figure are given in the order of the stations above, so that the first group refers to Ishigakijima, the second to Naha, and so on to the twentieth group. When observations are lacking, four ciphers replace the group to preserve the order. The first two symbols of each group give the barometric pressure in millimetres reduced to sea-level and corrected for gravity (see Table I), and the next one symbol gives the force of wind by the Beaufort scale and the state of weather (see Table II) and the last figure the direction of wind in each points (see Table III)

Thus



Barom



Wind force



Wind

Reading

and Weather

direction

(B) The last twenty symbols of the collective message give the state and movement of Highs and Lows according to the following formula: --

| | | | | | | | | | | |
|-------------------------|--|--|---------------------------------------|--|--|---------------|--|--|--|--|
| | | | | | | | | | | |
| Position Reading Remark | | | Position Depth Dir Speed First Second | | | remark remark | | | | |
| High | | | Low (I) | | | | | | | |

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Position Depth Dir Speed First Second
 remark remark
 Low (II)

The position of the High is given according to Table IV, the first symbol giving the latitude and the second the longitude

For the reading or intensity of the High see Table V and for the remark see Table VI

The first two symbols giving the position of the Low show the two-degree square of latitude and longitude in which the centre is located, according to Table IV as in the case of the High. The last of the position symbols gives the subdivision or quadrant of the two degree square, in which the centre lies.

For the depth of Low see Table VIII, for the direction of the progressive motion Table IX and for the speed of motion Table X. For the first remark refer to Table XI and for the second remark to Table XII.

Example

Synoptic data message —

| | | | | |
|---------|-----------------|-----------------|---------|---------|
| Q V A 8 | P W B 8 | P Q F 4 | Q J F 0 | Q E L 1 |
| Q S A 2 | R D F 0 | R Y M 2 | Q T L 2 | Q C H 3 |
| R J K 6 | S T L 2 | U F G 4 | U E G 4 | R V A 0 |
| S R A 7 | S Q F 6 | R P A 4 | S O A 0 | S Q A 8 |
| U Y M C | L R B L A R C G | S N B B C O F J | | |

Translation —

| Station | Barometric pressure | Weather | Wind force | Wind direction |
|--------------|---------------------|---------|------------|----------------|
| Ishigakijima | 756.4 mm | fair | 2-3 | N |
| Naha | 753.9 | fair | 4-5 | N |
| Nase | 753.3 | cloudy | 2-3 | S |
| Miyasaki | 755.2 | cloudy | 0-1 | - |

| Station | Barometric pressure | Weather | Wind force | Wind direction |
|-------------|---------------------|---------|------------|----------------|
| Shiwomisaki | 754.7 | rain | 4—5 | NE |
| Nagasaki | 756.1 | fair | 2—3 | E |
| Shimonoseki | 757.2 | cloudy | 0—1 | — |
| Choshi | 759.3 | rain | 6—7 | E |
| Hachijo | 756.2 | rain | 4—5 | E |
| Chichijima | 754.5 | cloudy | 6—7 | SE |
| Fukui | 757.8 | rain | 2—3 | W |
| Akita | 761.1 | rain | 4—5 | E |
| Sapporo | 765.2 | cloudy | 1—5 | S |
| Nemuro | 767.7 | cloudy | 4—5 | S |
| Moppo | 759.0 | fair | 0—1 | — |
| Joshin | 761.2 | fair | 2—3 | NW |
| Ryojun | 761.1 | cloudy | 2—3 | W |
| Changchun | 758.4 | fair | 2—3 | S |
| Tsingtau | 760.9 | fair | 0—1 | — |
| Shanghai | 761.1 | fair | 2—3 | N |

High

Lat. Long. Reading Remark
42—44° N. 150—152° E. 770 mm Shifting towards E

Low (I)

| Lat. | Long. | Subdiv | Depth | Direct |
|----------|---------------------------------|------------|------------------------------------|--------|
| 26—28° N | 136—138° E | Sec quadr | 740 mm | NNE |
| Speed | 1st Remark | 2nd Remark | | |
| 32 km/h | This low is a dangerous typhoon | | Severe rain storm near the centre. | |

Low (II)

Lat. Long. Subdiv Depth Direct
38—40° N 130—132° E. Sec quadr 760 mm ENE

| Speed | Ist Remark | IIInd Remark |
|---------|---------------------------------|--------------|
| Unknown | This low is a secondary cyclone | Feeble |

III. Storm warning messages.

8 Storm warning message is in plain English language

Typical warning --

- Ex 1 Typhoon longitude 135 latitude 25 moving NNW severe
- E 2 Cyclone north China moving eastwards severe snow storm expected Japan Sea to-night
- E 3 NWly gale expected Satamisaki to Shiwomisaki
- E 4 NWly monsoon will continue two days more

Table I. Barometric pressure.

| tenth mm | 0 0 | 0 1 | 0 2 | 0 3 | 0 4 | 0 5 | 0 6 | 0 7 | 0 8 | 0 9 |
|-------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| <711 | AA | | | | | | | | | |
| 711 | AB | — | AC | — | AD | — | AE | — | AF | — |
| 712 | AG | — | AH | — | AI | — | AJ | — | AK | — |
| 713 | AL | — | AM | — | AN | — | AO | — | AP | — |
| 714 | AQ | — | AR | — | AS | — | AT | — | AU | — |
| 715 | AV | — | AW | — | AX | — | AY | — | AZ | — |
| 716 | BA | — | BB | — | BC | — | BD | — | BE | — |
| 717 | BF | — | BG | — | BH | — | BI | — | BJ | — |
| 718 | BK | — | BL | — | BM | — | BN | — | BO | — |
| 719 | BP | — | BQ | — | BR | — | BS | — | BT | — |
| 720 | BU | BV | BW | BX | BY | BZ | CA | CB | CC | CD |
| 721 | CE | CF | CG | CH | CI | CJ | CK | CL | CM | CN |
| 722 | CO | CP | CQ | CR | CS | CT | CU | CV | CW | CX |

| tenth mm \ | 0 0 | 0 1 | 0 2 | 0 3 | 0 4 | 0 5 | 0 6 | 0 7 | 0 8 | 0 9 |
|---------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 723 | CY | CZ | DA | DB | DC | DD | DE | DF | DG | DH |
| 724 | DI | DJ | DK | DL | DM | DN | DO | DP | DQ | DR |
| 725 | DS | DT | DU | DV | DW | DX | DY | DZ | EA | EB |
| 726 | EC | ED | EE | EF | EG | EH | E I | E J | E K | E L |
| 727 | EM | EN | EO | EP | EQ | ER | ES | ET | EU | EV |
| 728 | EW | EX | EY | EZ | FA | FB | FC | FD | FE | FF |
| 729 | FG | FH | FI | F J | FK | FL | FM | FN | FO | FP |
| 730 | FQ | FR | FS | FT | FU | FV | FW | FX | FY | FZ |
| 731 | GA | GB | GC | GD | GE | GF | GG | GH | G I | G J |
| 732 | CK | GL | GM | GN | GO | GP | G Q | GR | GS | GT |
| 733 | GU | GV | GW | G X | G Y | G Z | HA | HB | HC | H D |
| 734 | HE | HF | HG | HH | H I | H J | HK | HL | HM | H N |
| 735 | HO | HP | H Q | HR | HS | HT | H U | H V | H W | H X |
| 736 | HY | HZ | I A | I B | I C | I D | I E | I F | I G | I H |
| 737 | I I | I J | I K | I L | I M | I N | I O | I P | I Q | I R |
| 738 | I S | I T | I U | I V | I W | I X | I Y | I Z | J A | J B |
| 739 | J C | J D | J E | J F | J G | J H | J I | J J | J K | J L |
| 740 | J M | J N | J O | J P | J Q | J R | J S | J T | J U | J V |
| 741 | J W | J X | J Y | J Z | KA | KB | KC | KD | KE | KF |
| 742 | KG | KH | KI | K J | KK | KL | KM | KN | KO | KP |
| 743 | KQ | KR | KS | KT | KU | KV | KW | KX | KY | KZ |
| 744 | LA | LB | LC | LD | LE | LF | LG | LH | L I | L J |
| 745 | LK | LL | LM | LN | LO | LP | L Q | LR | L S | L T |
| 746 | LU | LV | LW | LX | LY | LZ | MA | MB | MC | MD |
| 747 | ME | MF | MG | M H | M I | M J | M K | M L | M M | M N |
| 748 | MO | MP | MQ | MR | MS | MT | MU | MV | MW | MX |
| 749 | MY | MZ | OA | OB | OC | OD | OE | OF | OG | OH |
| 750 | O I | O J | OK | OL | OM | ON | OP | O Q | OR | OS |

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| tenth mm | 0 0 | 0 1 | 0 2 | 0 3 | 0 4 | 0 5 | 0 6 | 0 7 | 0 8 | 0 0 |
|-------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 751 | OT | OU | OV | OW | OX | OY | OZ | PA | PB | PC |
| 752 | PD | PE | PF | PG | PH | P I | P J | PK | PL | PM |
| 753 | PN | PO | PP | PQ | PR | PS | PT | PU | PV | PW |
| 754 | PX | PY | PZ | QA | QB | QC | QD | QE | QF | QG |
| 755 | QH | Q I | Q J | QK | QL | QM | QN | QO | QP | QQ |
| 756 | QR | QS | QT | QU | QV | QW | QX | QY | QZ | RA |
| 757 | RB | RC | RD | RE | RF | RG | RH | R I | RJ | RK |
| 758 | RL | RM | RN | RO | RP | RQ | RR | RS | RT | RU |
| 759 | RV | RW | RX | RY | RZ | SA | SB | SC | SD | SE |
| 760 | SF | SG | SH | S I | S J | SK | SL | SM | SN | SO |
| 761 | SP | SQ | SR | SS | ST | SU | SV | SW | SX | SY |
| 762 | SZ | TA | TB | TC | TD | TE | TF | TG | TH | T I |
| 763 | T J | TK | TL | TM | TN | TO | TP | TQ | TR | TS |
| 764 | TT | TU | TV | TW | TX | TY | TZ | UA | UB | UC |
| 765 | UD | UE | UF | UG | UH | UI | UJ | UK | UL | UM |
| 766 | UN | UO | UP | UQ | UR | US | UT | UU | UV | UW |
| 767 | UX | UY | UZ | VA | VB | VC | VD | VE | VF | VG |
| 768 | VH | V I | V J | VK | VL | VM | VN | VO | VP | VQ |
| 769 | VR | VS | VT | VU | VV | VW | VX | VY | VZ | WA |
| 770 | WB | WC | WD | WE | WF | WG | WH | WI | WJ | WK |
| 771 | WL | WM | WN | WO | WP | WQ | WR | WS | WT | WU |
| 772 | WV | WW | WX | WY | WZ | XA | XB | XC | XD | XE |
| 773 | XF | XG | XH | X I | X J | XK | XL | XM | XN | XO |
| 774 | XP | XQ | XR | XS | XT | XU | XV | XW | XX | XY |
| 775 | XZ | YA | YB | YC | YD | YE | YF | YG | YH | Y I |
| 776 | Y J | YK | YL | YM | YN | YO | YP | YQ | YR | Y S |
| 777 | YT | YU | YV | YW | YX | YY | YZ | ZA | ZB | ZC |
| 778 | ZD | ZE | ZF | ZG | ZH | Z I | Z J | ZK | ZL | ZM |

Table II. Wind force and Weather.

| Force Weather | 0 and 1 | 2 and 3 | 4 and 5 | 6 and 7 | 8 and 9 | 10 and over |
|------------------|---------|---------|---------|---------|---------|-------------|
| Fair | A | A | B | C | D | E |
| Cloudy | F | F | G | H | I | J |
| Rain | K | K | L | M | N | P |
| Snow | Q | Q | R | S | T | U |
| Fog | V | V | W | X | Y | Z |

Table III. Wind direction.

| Direction | NE | E | SE | S | SW | W | NW | N | Calm |
|-----------|----|---|----|---|----|---|----|---|------|
| Cypher | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 0 |

Table IV. Position of High and Low.

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| Longitude | Symbol | Longitude | Symbol | Longitude | Symbol | Longitude | Symbol |
|-----------|--------|-----------|--------|-----------|--------|-----------|--------|
| 104—106°E | A | 116—118°E | G | 128—130°E | M | 140—142°E | T |
| 106—108 | B | 118—120 | H | 130—132 | N | 142 144 | U |
| 108—110 | C | 120—122 | I | 132—134 | P | 144—146 | V |
| 110—112 | D | 122—124 | J | 134—136 | Q | 146 148 | W |
| 112—114 | E | 124—126 | K | 136—138 | R | 148 150 | X |
| 114—116 | F | 126—128 | L | 138—140 | S | 150 152 | Y |
| | | | | | | 152—154 | Z |

Table V. Reading of High.

| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|-----|---|---|---|---|---|---|---|---|---|---|
| 750 | — | — | — | — | — | — | — | Z | Y | X |
| 760 | W | V | U | T | S | R | Q | P | O | N |
| 770 | M | L | K | J | I | H | G | F | E | D |
| 780 | C | B | A | | | | | | | |

Table VI. Remark for High.

- A The barometric pressure within the high area increasing
- B The barometric pressure within the high area decreasing
- C The high shifting towards the east
- D The high shifting towards the north
- E The high shifting towards the northeast
- F The high shifting towards the southeast
- G The high shifting towards the south
- H The high remaining stationary
- I This high is a wandering anticyclone
- J This high is the eastern part of the Siberian Anticyclone

K This is the western part of the North Pacific anticyclone

L This high is an isolated anticyclone of large extent

M This high is an isolated anticyclone of small extent

N This high is a wandering anticyclone with increasing intensity

O None to be remarked

P This high is a wandering anticyclone with decreasing intensity

Q This high is the eastern part of the Siberian anticyclone and is increasing in intensity

R This high is the eastern part of the Siberian anticyclone and is decreasing in intensity

S This high is the western part of the North Pacific anticyclone and is increasing in intensity

T This high is the western part of the North Pacific anticyclone and is decreasing in intensity

U There is another high in the Pacific

V There is another high on the Continent

W There is another high Somewhere.

X The intensity of the high is increasing, stong monsoon expected

Y The intensity of the high is remaining unchanged, the monsoon will continue to blow

Z The intensity of the high is decreasing, monsoon expected to die away

Table VII. Subdivision of the two degree square.

A 1st quadrant

B 2nd quadrant

C 3rd quadrant

D 4th quadrant

O Whole two degree square

e 1st subdivision of the 1st quadrant

| | | | |
|----------|---|----------|---|
| j | i | f | e |
| B | | A | |
| k | l | g | h |
| n | m | s | r |
| C | | D | |
| p | q | t | u |

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- f 2nd subdivision of the 1st quadrant.
- g 3rd " "
- h 4th " "
- i 1st subdivision of the 2nd quadrant.
- j 2nd " "
- k 3rd " "
- l 4th " "
- m 1st subdivision of the 3rd quadrant.
- n 2nd " "
- p 3rd " "
- q 4th " "
- r 1st subdivision of the 4th quadrant
- s 2nd " "
- t 3rd " "
- u 4th " "

Table VIII. Depth of the Low.

| Depth | 0 | 2 | 4 | 6 | 8 |
|---------|---|---|---|---|----|
| 710mm | — | — | Z | Y | X |
| 720 | W | V | U | T | S |
| 730 | R | Q | P | N | M |
| 740 | L | K | J | I | H |
| 750 | G | F | E | D | C. |
| 760 | B | A | | | |
| Unknown | O | | | | |

Table IX. Direction of motion of the Low.

A NNE

B NE

C ENE

D. E

| | | | |
|----|--------------------------|---|---|
| F | SE | S | W, recurving towards N |
| G | SW | T | NW, recurving towards NE. |
| H | WSW | U | NW, recurving towards W |
| I | W | V | N, recurving towards NE |
| J | WNW | W | N, recurving towards NW |
| K | NW | X | Stationary |
| L | NNW | Y | Direction of motion remaining the same. The low is developing |
| M. | N | Z | Direction of motion remaining the same. The low is filling up |
| N | NE, recurving towards E. | O | Unknown. |
| P | NE, recurving towards N | | |
| Q | NE, recurving towards SE | | |
| R | E, recurving towards NE | | |

Table X. — Speed of the Low.
(km per hour)

| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---------|---|---|---|---|---|---|---|---|---|---|
| 0 | A | — | B | — | C | — | D | — | E | — |
| 10 | F | — | G | — | H | — | I | — | J | — |
| 20 | K | — | L | — | M | — | N | — | P | — |
| 30 | Q | — | R | — | S | — | T | — | U | — |
| 40 | V | — | — | — | — | W | — | — | — | — |
| 50 | X | | | | | | | | | |
| 60 | Y | | | | | | | | | |
| >60 | Z | | | | | | | | | |
| Unknown | O | | | | | | | | | |

Table XI. First Remark of the Low.

- A. This Low is a typhoon
- B. This Low is developing to a typhoon
- C. This Low is a dangerous typhoon

- D This Low is a cyclone
- E This Low is a severe cyclone
- F This Low is a secondary cyclone
- G This Low is developing to a secondary cyclone
- H This Low is developing to a cyclone

Table XII. Second Remark of the Low.

- A Feeble at present, but it is gradually developing
- B severe at present, but it is gradually filling up
- C gradually developing
- D Gradually filling up
- E Rapidly developing
- F Rapidly filling up
- G Severe rain-storm near the centre.
- H Severe snow, storm near the centre
- I State of the weather near the centre unknown
- J Feeble
- K Area of rain-storm is wide.
- L Area of snow-storm is wide
- M Force of wind within a distance of 300 km from the centre is 8 and upwards
- N Force of wind within a distance of 400 km from the centre is 8 and upwards
- O. Force of wind within a distance of 500 km from the centre is 8 and upwards
- P Force of wind within a distance of 600 km from the centre is 8 and upwards
- Q Force of wind within a distance of 700 km from the centre is 8 and upwards
- R After the passing of this cyclone the northwest monsoon will

blow strong over the Japan Sea and Northern Japan

- S After the passing of this cyclone a snow-storm with northwesterly gales will prevail over the Japan Sea and Northern Japan
- T After the passing of this cyclone the northeily monsoon will blow strong over the Eastern Sea of China
- U After the passing of this cyclone the northwesterly monsoon will blow strong over the Japan Sea and Northern Hokkaido, and the northerly monsoon over the Eastern Sea of China
- V After passing into the Japan Sea this cyclone is expected to develop rapidly and to accompany a snow storm
- W After passing into the Yellow sea this cyclone is expected to develop rapidly
- X After the passing into the Eastern Sea of China this cyclone will rapidly develop